

TITLE : SELF-COMPENSATING BALANCE SPRING FOR A MECHANICAL
OSCILLATOR OF A BALANCE-SPRING/BALANCE ASSEMBLY
OF A WATCH MOVEMENT, AND PROCESS FOR MANUFACTURING
THIS BALANCE-SPRING

ABSTRACT

A self-compensating spring for a balance-spring for
a balance-spring/balance assembly of a mechanical
oscillator of a horological movement or of any other
5 precision instrument, made of a paramagnetic Nb-Zr alloy
containing between 5% and 25% by weight of Zr, obtained by
cold rolling or cold drawing, and having a Young's modulus
whose temperature coefficient (TCY) is adjustable by
precipitation of Zr-rich phases in the Nb-Zr solid-
10 solution. It contains at least 500 ppm by weight of an
interstitial doping agent at least partly formed of
oxygen.

(Figure 4)